Visibility

Pollution Prevention Publication

Maricopa County Environmental Services Department

July – September 2001

VALLEY MEETS EPA ONE-HOUR OZONE STANDARD

The Environmental Protection Agency (EPA) announced at the Valley's ozone season kick-off in May that the Phoenix metropolitan area has met the one-hour standard for ground-level ozone, the primary component of smog.

The Phoenix area has carried out a number of smog control measures since being designated a non-attainment area and classified as serious for ozone in 1997. Arizona's key air quality improvements include cleaner burning gasoline, a vehicle emissions inspection program, and numerous pollution reduction measures for industrial and commercial sources.

The Clean Air Act requires three years of clean data and the Phoenix area has not recorded smog levels above the one-hour ozone standard since 1996. Based on this record, the EPA is suspending several air quality planning requirements that are unnecessary for areas meeting the standard.

"Phoenix has not experienced a single day over the one-hour ozone standard in four years, even while growing," said Jack Broadbent, the Air Division director for EPA Region 9. "Although Phoenix has made great strides in reducing smog, its citizens and businesses must continue to work together to help reduce air pollution."

Although the Phoenix area has met the one-hour ozone health standard, this is only the first step toward redesignating Phoenix as a clean air attainment area. To qualify, Arizona must submit a plan that shows how the region will continue to meet the clean air standard for the next 10 years.

The Clean Air Act, which was last amended in 1990, requires that EPA set national air quality standards for pollutants that threaten public health and the environment. When an area violates a health-based standard, the Act requires that the area be designated as non-attainment for that pollutant.

Inside this issue:

EMERGENCY GENERATORS AND TODAY'S REGULATIONS

The Maricopa County Environmental Services Department has received numerous inquiries about the use of emergency/standby generators. The questions range from "what does my permit cover" to "who has to permit emergency generators" to "will firing up all these emergency generators cause Maricopa County to violate the ozone standard this summer?"

An emergency/standby engine is an internal combustion engine used for power when normal power line service fails and operated no more than 500 hours per year for routine testing and emergency standby power. Emergency generators, whether diesel or natural gas fired, do not combust fuel as cleanly as a central power plant. Did you know:

- Generation of electricity using fossil fuels (natural gas, oil or coal) creates significant air pollution. The amount of pollution varies greatly with the fuel, the generation technology, and the specific pollution control technology employed.
- Two pollutants, oxides of nitrogen (NO_X) and particulate matter (PM), are of most concern. NO_X emissions produce ozone and react in the atmosphere to form small particles that also add to our brown cloud.
- This table from the California Air Resources Board compares emissions of NO_X in pounds per megawatt hour (MW-hr) of power produced for several technologies.

Generation Unit	Lbs. NOx/MW-hr.
Existing Diesel Standby Emergency Generators	25 to 30
Diesel Engine with Best Available Control	7
Uncontrolled Gas-Fired Power Plant	2 to 4
New Natural Gas Peaking Turbines	0.1 to 0.8
New Combined Cycle Gas-Fired Power Plant	0.065

- PM emissions from diesel engines are significantly higher than emissions from turbines or boilers fueled with natural gas. Relative emissions are shown below.

Generation Unit	Lbs. PM/MW-hr.
Existing Diesel Engine	1 to 3
Existing Diesel Engine with Trap Retrofit	0.1 to 0.5
Gas-Fired Power Generation	0.03 to 0.07

Although the following information is directed towards permitted sources, it may also be valuable to:

a. A source that wants to add an emergency generator to its site; or
b. A source not required to obtain a permit, but at which the installation of emergency equipment is planned.

An individual permit is required for operation of emergency standby engines if the emissions from the total of all the emergency standby engines exceeds

(Continued on page 3)

I CAN SEE CLEARLY NOW: OZONE AND HEALTH

By David Feuerherd, Arizona Lung Association

As August approaches, we should have a good idea on whether this will be a good ozone season or a difficult one. The recent change in our ozone status by the Environmental Protection Agency is a great public health achievement, and should remind us that our air quality control efforts have been quite successful in the latter part of the last decade. But why do we spend all this time and effort reducing the production of ozone?

Unlike the natural ozone gas in the upper atmosphere, which shields the earth from ultraviolet rays, ozone at ground level is a health hazard. Ozone is a respiratory irritant whose short-term symptoms include inflammation and irritability of the airways, coughing, tightness of chest, pain on inhalation, and difficulty in breathing. Inhalation of ozone can cause changes in lung function and provoke asthma attacks in some individuals. The ability to perform sustained exercise is also adversely affected by exposure to ozone.

Exposing lungs to ozone pollution is analogous to a sunburn on your skin. One exposure is not likely to kill or cause severe health consequences. However, repeated exposures to ozone will stiffen lung tissue much like repeated sunburn will lead to leathery, wrinkled skin.

Children are more vulnerable than adults to pollutants of any kind, especially ozone. This vulnerability begins in fetal life when a pregnant woman exposed to pollutants also exposes the fetus she is carrying. The cellular immaturity of children and their ongoing growth processes account for this elevated risk. Children's airways are also much narrower than an adult's. Therefore, children are especially at risk of respiratory problems, because, for their body size, they inhale several times more air than adults, and because they tend to spend more time playing outdoors.

The next decade will see more ozone challenges as growth increases and new standards are implemented. Our continuing vigilance and implementation of control measures will be a necessary part of this challenge.

HOUSEHOLD HAZARDOUS WASTE COLLECTION IN MARICOPA COUNTY

The Environmental Protection Agency (EPA) estimates that Americans generate 1.8 million tons of Household Hazardous Waste (HHW) per year. The best way to deal with HHW is not to have any. Before you buy a product, make sure it will do the job you intend it to do. When possible, buy only the amount you need so there are no "leftovers" to store or dispose of.

When improperly disposed of, HHW can create a potential risk to people and the environment. Relatively small quantities of household products can contaminate water and soil when poured down the sink, into sewer drains, onto the ground, or landfilled. All of us can help by recycling solid waste and properly disposing of HHW. Valley cities provide this service in various ways.

- **City of Phoenix** BOPA (Batteries, Oil, Paint & Antifreeze) events now include appliances and computers! The next event is September in Ahwautukee. For more information, visit **http://www.ci.phoenix.az.us/GARBAGE/bopa.html** or call (602) 262-7251.

- **City of Scottsdale** provides two HHW collection events, one in the Spring and another in the Fall. For more information, visit **http://www.ci.scottsdale.az.us/solidwaste/HHW_guidelines.asp** or call (480) 312-5600.

- **City of Tempe** has the first permanent collection center in the Valley. Located at 1320 E. University Drive, the facility accepts unwanted household and automotive items from the residents of Tempe and Guadalupe. This service is provided to the community throughout the year, but the facility is only open on Fridays and Saturdays. For more information, visit **http://www.tempe.gov/env/hpcc.htm** or call (480) 858-2223.

- **City of Mesa** has several HHW collection events yearly. Accepted items include paint, motor oil, antifreeze, pool chemicals, gas and pesticides. For more information, visit **http://www.ci.mesa.az.us/waste/hazard.htm** or call (480) 644-2222.

- **City of Gilbert** has an annual HHW event, however, Gilbert residents can also participate in the HHW events conducted by the Cities of Chandler and Mesa. Visit **http://www.ci.gilbert.az.us/environment/wastes.htm** or call (480) 503-6422 for details.

- **City of Chandler** provides two HHW collection events, one in the Spring and another in the Fall. The City of Mesa may also take HHW from Chandler residents at some of their events. For more information, call (480) 782-3510.

- **City of Glendale** has an annual HHW collection each March. Visit **http://www.ci.glendale.az.us/** or call (623) 930-3410 or 930-HELP.

- **City of Peoria** has collection events during the year and free household pick-up. For questions or to schedule a pick-up, call (623) 773-7431.

Additional HHW disposal options and other environmental information can be found at Earth's 911. Call 1-800-CLEANUP or visit **http://www.1800cleanup.org**.

To donate construction materials/paint, please call Stardust Building Supplies Inc. at (602) 604-0605.

Note: Each city's HHW recycling program is different, but all require proof of city residency to participate, usually a water bill and a driver's license. Commercial waste is unacceptable at HHW events but can be collected for a fee in some cities. Please call your city to find out more.

SUCCESS STORY: IRONWOOD LITHOGRAPHERS

By Yvonne Bishara, Air Quality Inspector

On a recent annual inspection of a graphic arts facility, a solvent recovery unit was noted as being used for blanket washes. As most printers have their solvent hauled away as hazardous waste, I was curious about the unit and asked facilities manager David Krzyzak to supply analysis information.

Ironwood Lithographers uses a 10 gallon unit that runs once per day for 4-8 hours, depending on the water ratio. It is easy to use. They have a 55 gallon drum where the dirty solvent is held until pumped 10 gallons at a time to the recovery unit. The unit takes about 10 minutes to fill, then they close it and push a button. When the cycle is complete, only the sludge has to be cleaned out before starting the next cycle. The unit also separates out clean water, which can be discharged with wastewater or be reused.

Clean solvent is drained into a self-contained holding container, with built-in vacuum assistance, for reuse. They are heated by electric heaters immersed in thermal oil within the outer jacket of a stainless steel solvent chamber. By utilizing vacuum to reduce the boiling temperature, the actual distillation temperatures are below 365ºF. Solvent recovery yields in excess of 80% and purity in excess of 99% are typical. (Part of this information came from the manufacturer's literature at **www.pneumaticproducts.com/siva/**.)

The unit has been in operation for 8 years, with only minimal service required for maintenance. The figures below are based on prices at the time of purchase.

Cost:
Monthly Solvent Usage = 210 gallons
210 gal. ÷ 55 gal. = 3.8 drums
3.8 drums x $268.13 per drum = $1,018.89

Disposal Cost:
Monthly Waste Solvent = 97 gallons
97 gal. ÷ 55 gal. = 1.76 drums
1.76 drums x $285 = $501.60

Cost of Siva R-2AX Solvent Recovery System = $7,870 + O&M

Solvent Cost Saved Per Month:
1.76 drums x 30% water content = .52 recyclable solvent
.52 x 55 gal. = 28.6 gal. water
97 gal. waste – 28.6 gal. water = 68.4 gal. or approx. 65 gal. clean solvent
65 gal. clean solvent ÷ 55 gal. = 1.18 drums recovered per month
1.18 x $268.13 = $316.39

Plus savings from decreased waste shipments:
$501.60 - $25 (waste sludge) = $476.6 per month

Total Estimated Savings:
$316.39 + $476.60 = $792.99 per month

Time for System to Pay for Itself:
$7,870 ÷ $792.99 = 9.9 months

Other uses for this recovery system are: circuit board stripping, semi-aqueous and hydrocarbon degreasing, fiberglass cleaning, and paint, ink, adhesive and precision parts solvents.

GENERATORS (Continued from page 1)
4000 pounds of NO_X or carbon monoxide (CO) per year at 500 hours of operation each. All internal combustion engines used as standby power due to voluntary power reductions by the power company require permits.

Adding generators or changing the method of operating an existing generator may subject your facility to additional permitting requirements. Changing the operation of your generator from emergency standby to use during voluntary power reductions by the power company constitutes a change in the method of operation. If your facility already has a permit, you may apply for a permit modification to incorporate the changes to your site.

If a company adds equipment to another site that was not previously required to obtain a permit, there are two options to obtain a permit for that site.

Option 1 - General Permit: The Arizona Department of Environmental Quality recently issued a general permit for generators of up to 3000 HP of combined capacity. This permit is appropriate for facilities needing to permit an emergency generator that have no other operations for which a permit is necessary. Diesel engines over 185 HP, gasoline engines over 45 HP, and natural gas/LP engines over 225 HP may obtain a general permit from Maricopa County. The applicant must calculate how many hours their generator(s) will be allowed to operate each day to remain under 150 pounds of pollution and each year to remain under 25 tons per year. The permit does not specifically mention emergency standby operation and contains no waiver of the daily operating hour limit for emergency circumstances. As a result, this permit may not provide enough flexibility for sites installing larger engines limited to relatively few hours of operation each day.

Option 2 - Individual Permit: This type of permit applied to emergency generators typically includes an hours per day limitation for non-emergency operation and a waiver of that daily limitation when normal power line service fails. The waiver of the daily operating hour limitation does not apply when the generator is used as standby power due to a voluntary reduction in power by the power company or for peak shaving.

We suggest that all facilities equipped with emergency standby generators review their existing Air Quality permit conditions to familiarize themselves with the operating limitations.

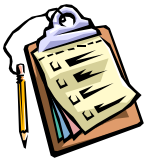
Both APS (**www.aps.com**) and SRP (**www.srpnet.com**) offer voluntary programs seeking load reductions during peak periods from their customers. Under the existing regulations, companies choosing to participate in these programs are constrained by the conditions in their air quality permits that limit hours per day and hours per year of operation.

EPA has indicated that they do not believe the Maricopa County area faces the same level of energy crises occurring in California, based on the information supplied by our local utilities. However, we obviously do not have the energy reserves we have had in the past.

If you have any questions or would like to discuss these issues further, contact:

- Jo Crumbaker, Planning, 602-506-6705 or jcrumbak@mail.maricopa.gov
- Paul Gilman, Permitting, 602-506-6733 or pgilman@mail.maricopa.gov
- Richard Polito, SBEAP, 602-506-5102 or rpolito@mail.maricopa.gov

INTEL HELPS COUNTY AUTOMATE TRIP REDUCTION PROGRAM SURVEY



Intel was the first of what will soon be many companies to point and click their way through Maricopa County's Trip Reduction Program (TRP) annual survey. When the County asked for their help in automating the paper process, Intel jumped at the chance to provide the details of their employees' commuting habits electronically and saved time and money doing it.

"We wanted to be an environmental leader and use our technology to improve the current process and share it with others," said Renee Levin, Environmental and Community Project Manager at Intel. After her IT team developed the program, Levin sent an internal e-mail blast to about 10,000 employees with follow-up reminders to take the mandated survey. Eliminating the paper trail saved Intel well over $20,000 and cut the survey time by more than half. "It saved us so much time tracking people down and sorting paper," said Levin. "It's point and click now - no more coloring in bubbles."

Bill Kicksey, Community Services Division Manager, oversees the County's Trip Reduction Program and is pleased with Intel's results. "The data was flawless and what normally would take two weeks in process was done in one day. No weighing in, cleaning and sorting of surveys, no scanning, no data correction - it's fantastic." It also saved the County about $1,500.

The automated survey is now available to other large companies with similar servers. The County is working on making the survey available to smaller companies on-line and expects to have it on the website this summer. TRP anticipates reducing the paper surveys by 40% this fiscal year, resulting in significant savings for each business and for Maricopa County. For more information, call TRP at (602) 506-6750.

A BRIGHT IDEA - BANNING INCANDESCENT BULBS?

The I-bulb Gimmick
An incandescent bulb is cheap to buy. But the 25¢ to $1.00 you spend for a 100-watt incandescent bulb (I-bulb) can cost you between 12 and 60 times that amount on your electric bills.

How do you figure that?
During cool weather in the Phoenix area, electricity costs about 6 cents per kilowatt hour (kwh). The 100 kwh of electricity used by a 100 watt I-bulb over the course of its 1000 hours of life costs you $6 in electricity if you use it only in cool weather. But if the bulb spends its entire 1000 hours of life lit in hot weather, it will cost you more than twice that amount.

Then there are those *other* months...
Power costs 10 cents per kwh in the hot weather months, but there are also additional costs to consider. You probably have a few 100 watt I-bulbs inside your home. If you add together the total hours each is used during hot weather, for each 1000-hours, your air conditioner will have to remove the 93 kwh of heat they produce. The cooling costs for this alone is $2 to $5, depending on the efficiency of your AC.

What if you use a halogen bulb instead? Buying a halogen bulb costs several times more than an I-bulb having the same light output. Even with a much longer lifespan, a halogen bulb is only 10% more efficient in turning electricity into light, so it will be about as expensive using a halogen bulb as using an I-bulb.

The Solution:
There is a better way. A good 27 watt fluorescent bulb (F-bulb) produces the same 1750 lumens as a 100 watt incandescent bulb but costs much less in the long run. It's initial cost is $11 to $16, but it has a life-span of between 5000 and 10,000 hours; this means that you pay between $1.50 and $3.00 for every 1000 hours of use. But during each 1000 hours of use, an F-bulb will use only 27 kwh of power and produce only 20 kwh of heat. In hot weather, 1000 hours of its light will cost $2.70 – and between 43¢ and $1.08 for the air conditioning to remove its heat.

Bulbous Head-To-Head Comparison:
Even in a worst-case comparison in which a 1000-hour 100-watt I-bulb costs only 25¢ while an F-bulb is $3.00 for each 1000 hours (i.e., it costs $15 and lasts 5000 hours), and the air conditioner used has a very high efficiency (15 SEER), the total cost per 1000 hours in the hot months is $12.25 for a 1750 lumen, 100-watt I-bulb. The total cost for the 1750 lumen F-bulb is $6.13, half as much as the incandescent.

On the other hand, if the I-bulb costs $1.00 to buy, and the $15 F-bulb lasts 10,000 hours, and the SEER rating of the AC is around 6, then in hot weather it will cost only $5.28 to use an F-bulb for 1000 hours, while using an I-bulb for the same period costs $16.00 - or 3 times as much! And that doesn't even include the cost of wear and tear on the AC.

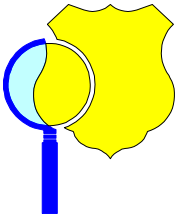
So - where or when will you ban incandescent bulbs?

COOL WEBSITES

If you know of a website other readers might like to see, send it to **dromesbu@mail.maricopa.gov**.

- The Arizona ELM Program provides Environmental Leadership through Mentoring. Read about it at **www.maricopa.gov/sbeap/az_elm.htm**.
- The Alliance to Save Energy (**www.ase.org**) is a coalition of business, government, consumer, and environmental leaders who promote efficient and clean energy use.
- The Energy Efficiency and Renewable Energy Network is an information clearinghouse operated by the US Department of Energy at **www.eren.doe.gov**.
- DoE also operates the Home Energy Saver website at **www.homeenergysaver.lbl.gov**, which acts like an energy efficiency expert delivering custom-tailored advice directly to your home.
- **ENERGYguide.com** helps you look for energy-efficient products, analyze your home and business energy use, and locate heating and cooling contractors.
- **LightSite.net** is an online resource for energy-efficient lighting information and products.
- **Coolcompanies.org** is a project of the Center for Energy & Climate Solutions. They help businesses, government, and environmental organizations develop tools to foster the adoption of clean and efficient energy solutions.

ENFORCEMENT ACTIONS



A monthly enforcement report is published at **www.maricopa.gov/envsvc/news.asp.** This is a summary of the air enforcement actions for the past quarter.

- An **Order of Abatement** was issued to Rockland Materials for operating without an Air Quality Permit.
- An **Order of Abatement** was issued to Arizona Public Service Co. for operating without modifications to an existing permit.
- **Citations** were issued to two Diamond Shamrock facilities for failure to clean up spilled gasoline.

The Environmental Services Department uses one of the following methods of legal action to enforce the Maricopa County Air Pollution Control Regulations:

- A Permit Revocation may be initiated against a facility/establishment that has not demonstrated compliance or has been found in violation of any applicable Rule.
- A Permit may be suspended immediately for serious Air Quality violations. The facility would not be permitted to operate.
- Citations are issued for violations of the Air Pollution Control Regulations. The citation directs the defendant to appear for arraignment in Justice Court.
- Orders of Abatement are issued to individuals or corporations for violations of the Maricopa County Air Pollution Control regulations.

INTERNATIONAL STANDARDS - WHAT DO THEY MEAN?

International standardization began in the electrotechnical field with the creation of the International Electrotechnical Commission (IEC) in 1906. Pioneering work in other fields was carried out by the International Federation of the National Standardizing Associations (ISA), which was set up in 1926. ISA's main emphasis was on mechanical engineering.

During World War II, ISA's activities ceased. In 1946, delegates from 25 countries decided to create a new international organization, "the object of which would be to facilitate the international coordination and unification of industrial standards". The new organization, the International Organization for Standardization (ISO), began officially on February 23, 1947. Their mission was (and is):

- To promote the development of standardization and related activities in the world with a view to facilitating the international exchange of goods and services.
- To develop cooperation in the spheres of intellectual, scientific, technological, and economic activity.

The first ISO standard was published in 1951: "Standard Reference Temperature for Industrial Length Measurement".

Many people notice that the short title (ISO) doesn't seem to match the official title (International Organization for Standardization). The acronym should be "IOS', but "ISO" is not an acronym. It comes from the Greek word "isos", which means "equal" and is the root of the prefix "iso-" that occurs in terms such as "isometric" (of equal measure or dimension) and "isonomy" (equality of laws or of people before the law).

From "equal" to "standard", the line of thinking that led to "ISO" is easy to follow. In addition, the name is used around the world, thus avoiding a plethora of acronyms resulting from the translation of the name into the different languages of members (e.g., OIN in French from Organisation Internationale de Normalisation). Whatever the country, the name is always ISO.

ISO has developed voluntary technical standards for almost all sectors of business, industry, and technology. ISO standards are documented agreements containing technical specifications or other precise criteria to be used consistently as rules, guidelines, or definitions of characteristics to ensure that materials, products, processes, and services are appropriate for their purpose. The majority of ISO standards are highly specific and are of concern to engineers and other technical specialists concerned with the precise scope addressed in the standard. For example, ISO standards for such seemingly humble items like bolts, nuts, screws, pins, and rivets literally help stop much of the world around us from falling apart, but you're not likely to come across references to such ISO standards in the business and economic press, nor to see companies proudly advertising that they implement them.

ISO 9000 and ISO 14000

ISO 9000 was introduced in 1987 and ISO 14000 nearly 10 years later. Both standards have brought ISO to the attention of a much wider business community. They are both "generic management system standards":

- "Generic" means that the same standards can be applied to any organization regardless of their size or product, including whether the "product" is actually a service in any sector of activity and whether the organization is in the business, public, or government sector.
- "Management system" refers to what the organization does to manage its processes or activities. In a very small organization, there is probably no "system" as such, but rather "our way of doing things". "Our way" is probably not written down but in the manager's or owner's head. The larger the organization and the more people involved, the more likelihood that there are written procedures, instructions, forms, or records. To be really efficient and effective, the organization can manage its way of doing things by systemizing. Systemizing ensures that nothing important is left out and that everyone is clear about who is responsible for doing what, when, how, why, and where.
- "Management system standards" provide the organization with a model to follow in setting up and operating a management system. A management system that conforms to the standard is built on a firm foundation of state-of-the-art practices. Large organizations or organizations with complicated processes could not function well without management systems, although they may use another term for it. Companies in the fields of aerospace, automobiles, defense,

(Continued on page 6)

BIODIESEL BASICS

Biodiesel is the name of a clean burning mono-alkyl ester-based oxygenated fuel. It contains no petroleum, but can be blended at any level with petroleum diesel to create a biodiesel blend. It can be used in existing and new compression-ignition (diesel) engines with practically no modifications. Biodiesel is simple to use, biodegradable, nontoxic, and essentially free of sulfur and aromatics. Biodiesel is renewable and domestically produced from agricultural resources.

The most common source of biodiesel in the United States is soybean oil. In its pure form, biodiesel fuel is referred to as B100 or "neat" fuel. The most common blend is a mix of 20% biodiesel with 80% petroleum diesel, or B20.

Biodiesel has become the first and only alternative fuel to have successfully completed the health effects testing requirements of the Clean Air Act Amendments of 1990. Effective November 1998, B20 was approved by Congress as an EPAct (Energy Policy Act of 1992) compliance strategy. The legislation allowed EPAct fleets to meet their alternative fuel vehicle purchase requirements simply by buying 450

gallons of pure biodiesel and burning it in new or existing diesel vehicles in at least a 20% blend with diesel fuel. The Congressional Budget Office and U.S. Department of Defense have confirmed that the biodiesel option is the lowest cost alternative fuel option for meeting the EPAct compliance requirements.

In December 1998, the American Society of Testing and Materials (ASTM) issued a provisional specification (PS 121) for biodiesel fuel. ASTM is the premier standard-setting organization for fuels and additives in the U.S. The U.S. Environmental Protection Agency has adopted the ASTM standard and different state divisions of weights and measures are currently considering its adoption. This development was crucial in standardizing fuel quality for biodiesel in the U.S. market.

Compared to conventional diesel exhaust, biodiesel emissions show reductions in volatile organic compounds, carbon monoxide, and particulate matter. They also show decreased levels of polycyclic aromatic hydrocarbons (PAH) and nitrated PAH compounds, which have been identified as potential cancer-causing compounds. Since there is no sulfur in biodiesel fuel, combustion of B100 has no sulfur dioxide emissions. Nitrogen oxide (NOx) emissions from biodiesel combustion increase or decrease depending on the engine family and testing procedures. The addition of specially formulated additives to biodiesel fuel is expected to have a major impact on NOx emission reduction.

Supreme Oil Company and Western States Petroleum are two of the suppliers of biodiesel fuel in the metropolitan Phoenix area. Compared to the cost of conventional diesel fuel, B100 costs about 50 cents per gallon more, and B20 costs about 15 cents per gallon more. Rockland Materials in Phoenix currently operates 100 trucks on B100 fuel.

A wealth of additional information on biodiesel fuel is available from engine manufacturers, fuel producers, consultants, universities, and various other organizations. One resource is the National Biodiesel Board: (800) 841-5849 or **www.biodiesel.org**.

ISO (Continued from page 5)

and health products have been using management systems for years. ISO's management system standards now make these successful practices available for all organizations.

Both ISO 9000 and ISO 14000 are "families" of standards, which are referred to under these generic titles for convenience. Both families consist of standards and guidelines relating to management systems and related supporting standards on terminology and specific tools, such as auditing. Both sets of standards are concerned with the way an organization goes about its work, not the direct result of it. In other words, they deal with processes and not products – at least, not directly.

Nevertheless, the way an organization manages its processes is obviously going to affect its final product. In the case of ISO 9000, it affects whether or not everything has been done to ensure that the product meets the customer's requirements. In the case of ISO 14000, it affects whether or not everything has been done to ensure a product will have the least harmful impact on the environment, either during production or disposal, and either by pollution or by depleting natural resources.

ISO 9000 is primarily concerned with "quality management". Like "beauty", everyone may have his or her idea of what "quality" is. In plain language, the standardized definition of "quality" in ISO 9000 refers to all those features of a product or service which are required by the customer. "Quality management" means what the organization does to ensure that its products conform to the customer's requirements.

ISO 14000 is primarily concerned with "environmental management". In plain language, "environmental management" means what the organization does to minimize harmful effects on the environment caused by its activities.

However, neither ISO 9000 nor ISO 14000 are product standards. The management system standards in these families state requirements for what the organization must do to manage processes influencing quality (ISO 9000) or processes influencing the impact of the organization's activities on the environment (ISO 14000). In both cases, the philosophy is that these requirements are generic. No matter what the organization is or does, if it wants to establish a quality management system or an environmental management system, then the system will have a number of essential features that are spelled out in ISO 9000 or ISO 14000.

For more information:

- ISO's website - **http://www.iso.ch/**
- The ISO 14000 Information Center - **http://www.iso14000.com**

Next Issue: Environmental Management Systems (EMS)

July 2001

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1	2	3	4 	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19 S	20	21
22	23	24	25	26	27	28
29	30	31				

August 2001

Sun	Mon	Tue	Wed	Thu	Fri	Sat
			1 	2	3	4
5	6	7	8	9 W	10	11
12	13	14	15	16	17	18
19	20	21	22 H	23 W	24	25
26	27	28	29	30	31	

September 2001

Sun	Mon	Tue	Wed	Thu	Fri	Sat
						1
2	3 	4	5 H	6 W	7	8
9	10	11	12	13	14	15
16	17	18	19	20 W	21	22
23	24	25	26	27	28	29
30						

AIR RULE WORKSHOPS AND HEARINGS

Public workshops are held at 1001 N. Central Ave., Suite 560. Public hearings are held at the Board of Supervisors' Auditorium, 205 W. Jefferson St. and are tentative until set by the Board. Draft copies of rules are available at the Air Quality Division, 1001 N. Central Ave., Suite 201. For updates, call (602) 506-0169. This schedule, current Air Quality Rules, and proposed draft rules are available at **http://www.maricopa.gov/envsvc/air/workshops.asp**.

July 19th from 1:30 to 3:30 pm:
Dust Control and Construction - Question & Answer Session. 1001 N. Central Ave., Suite 560, Phoenix. To register , call (602) 506-5150 or email Maureen Lynch at **mlynch@mail.maricopa.gov**.

W = Workshop **H** = Hearing **S** = Seminar

August 9th at 9 am:
Public Workshop on New Rule 204 (Emissions Banking)

August 22nd at 9 am:
Public Hearing on Rule 100, Rule 200, Appendix D, and Appendix E

August 23rd at 9 am:
Public Workshop on New Rule 322 (Power Plant Operations)

August 23rd at 1:30 pm:
Public Workshop on New Rule 358 (Foam Expansion)

September (date TBA):
"Coatings and Compliance - An Environmental Management Approach". See page 8 for details.

September 5th at 9 am:
Public Hearing on Rule 140

September 6th at 9 am:
Public Workshop on Rule 314 (Open Outdoor Fires)

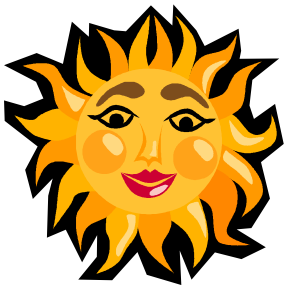
September 6th at 1:30 pm:
Public Workshop on New Rule 323 (Fossil Fuel Burning Combustion Equipment from Industrial-Commercial-Institutional Sources)

September 20th at 9 am:
Public Workshop on Rule 312 (Abrasive Blasting)

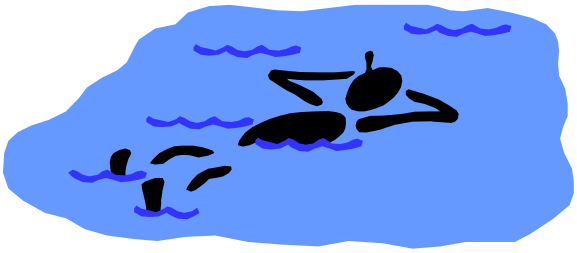
September 20th at 1:30 pm:
Public Workshop on Rule 280 (Fees)

Visibility
Pollution Prevention Publication

Maricopa County Environmental Services Department



Have A Cool Summer!



VISIBILITY GOES ELECTRONIC

Visibility is going electronic! If you currently receive your copy in the mail, please contact Dee Romesburg at **dromesbu@mail.maricopa.gov** or (602) 506-6794. Give your current label information and your email address. You will be notified when a new issue is available on our website.

If you don't have Internet access, you can continue to receive *Visibility* through the mail - just contact Dee with your current label information and your preference.

Please respond by September 28th.

MARK YOUR CALENDARS...

In September, AzELM and the Small Business Environmental Assistance Program (SBEAP) will host "Coatings and Compliance - An Environmental Management Approach." Check the SBEAP website at **www.maricopa.gov/sbeap** for the exact date and location or email Maureen Lynch at **mlynch@mail.maricopa.gov** to be added to an announcement list.

The seminar will cover real world solutions for voluntary EMS and energy efforts, resources for your questions, interactive discussions of Best Practices, and road maps (not road blocks) for creating a safer and healthier work environment.

FREE Energy, Waste, & Productivity Assessments!

The Arizona State University Industrial Assessment Center (IAC), sponsored by the US Department of Energy, helps manufacturers reduce costs by recommending savings related to energy conservation, waste minimization, and productivity improvement, all at no charge. The IAC team conducts an on-site assessment of potential cost-saving measures and follows that with a written report that details the savings for energy, waste, and productivity recommendations. For more information or to schedule your free assessment, please contact Professor Pat Phelan at 480-965-1625 or **phelan@asu.edu**.

THE VISIBILITY NEWSLETTER

is published quarterly by the Pollution Prevention Committee of the Maricopa County Environmental Services Department. Questions and requests to be added to the mailing list or email notification list may be addressed to Dee Romesburg at 1001 N. Central Ave., Suite 695, Phoenix, AZ 85004, by phone at (602) 506-6794, or by email at dromesbu@mail.maricopa.gov.

Dee Romesburg, Editor

CONTRIBUTORS

Yvonne Bishara; Jo Crumbaker; Laura Devany; David Feuerherd; Renee Kongshaug; Rick Kramer-Howe; Johanna Kuspert; Jess Lotwala; Maureen Lynch; Pat Phelan; and Richard Polito.